Please mute your mobile phones and other electronic devices at this time.

Thank you for your cooperation.
Operations Committee Meeting

Wednesday, May 10, 2023
1:00 – 2:00 PM Central
Grand Ballroom
Hilton Chicago/Oak Brook Hills Resort and Conference Center
Call to Order

• Welcome

• Reminder of expectation for Committee members
  • Meetings include deliberation of issues, education, and discussion of recommended practices
  • Solicitation of business is not allowed during meetings
  • Members must abide by antitrust guidelines
  • Actively participate in Committee
    • Committee participation is reviewed throughout the year
Housekeeping

• Turn Cell Phones to Vibrate or Off

• **Please** No Side Bar Conversations

• When Speaking
  • Use a Microphone
  • Identify Yourself and Company Affiliation
Safety Briefing

- Current Location:
  - Hilton Chicago/Oak Brook Hills Resort and Conference Center, Grand Ballroom, 3500 Midwest Rd, Oak Brook, IL 60523

- Hotel Security: See Front Desk

- 911: See Front Desk

- AED: See Front Desk

- First Aid Kit: See Front Desk

- CPR Assignments: Volunteers?
Safety Briefing - Continued

• Evacuation:
  • Evacuation Route: Exit out the North Foyer and directly out to the parking lot
  • Rally point: Northeast side of parking lot
  • Tornado Evacuation Route: Down the stairs by Ballroom G, follow instructions from staff
  • Chairs pushed in - Avoid tripping hazards

• Fire extinguishers: Located in hallway

• Drills scheduled or planned for the day: None
Call to Order

• Antitrust Guidelines

• Determination of Quorum
Task Force & Working Group Reports
Geofence Task Force

Ted Prince, Tiger Cool Express
May 10, 2023
Grand Ballroom
Hilton Chicago/Oak Brook Hills Resort and Conference Center
Objectives

• Create, maintain, and resolve a standard compendium of intermodal terminal geofences

• Geofences can be used to
  • Universally define terminal boundaries and limits
  • Support performance KPIs
  • Sub-terminal geofences to identify terminal sub processes and data collection points
Thank You to the Members

- Andy Adams, Railinc
- John Allen, FlexiVan
- Dakota Anderson, Virginia International Terminals, Inc.
- Nicole Bailey, DCLI
- Stephanie Bewick, NavTrac
- Gerry Bisaillon, REMPREX, LLC
- Ryan Bivinetto, BlackBerry Radar
- Chris Brickley, NASCENT Technology, LLC
- Mike Burton, C & K Trucking, LLC
- Tolga Cankurtaran, NC State Ports Authority
- Dave Clifford, Ventura Transfer Company
- Chuck Connors, H & M International Transportation, Inc.
- Nate Graglia, Wallport Transit Xpress, Inc.
- Jeremy Hayden, Union Pacific Railroad Company
- Walter Kemmsies, The Kemmsies Group
- Hampton Lee, South Carolina Ports Authority
- Chris Machut, SiteTrax.io by Netarus
- Mark McKendry, NFI Industries
- Douglas Owen, Bureau International Des Containers
- James Palmer, CSX Intermodal Terminals, Inc.
- Christopher Plaat, BlackBerry Radar
- Ted Prince, Tiger Cool Express, LLC
- Mark Ratkiewicz, NASCENT Technology, LLC
- David Roff, Bureau International Des Containers
- Aaron Rossiter, BNSF Railway
- Leif Rush, CSX Intermodal Terminals, Inc.
- Stan Scofield, FlexiVan
- Matthew Wafer, Union Pacific Railroad Company
Update Since March Meeting and Next Steps
Questions & Discussion
Railroad APIs Working Group

Jeremy Hayden, Union Pacific
May 10, 2023
Grand Ballroom
Hilton Chicago/Oak Brook Hills Resort and Conference Center
Thank You to the Members

- Duke Acors, Georgia Ports Authority
- Andy Adams, Railinc
- Frank Amelio, C & K Trucking, LLC
- Christopher Anderson, REMPREX, LLC
- Ryan Bivinetto, BlackBerry Radar
- Mike Burton, C & K Trucking, LLC
- Dave Clifford, Ventura Transfer Company
- Chuck Connors, H & M International Transportation, Inc.
- Danny Dever, Railinc
- Jeffrey Dudenhefer, North American Chassis Pool Cooperative (NACPC)
- Nate Graglia, Wallport Transit Xpress, Inc.
- Bill Hamlin, Gray Wolf Group LLC
- Jeremy Hayden, Union Pacific Railroad Company
- Joe Hite, CIE Manufacturing
- Steve Kemp, South Carolina Ports Authority
- Srinivas Kunapareddy, TRAC Intermodal
- Phil Lucier, FlexiVan
- Chris Machut, SiteTrax.io by Netarus
- Tom Martucci, Consolidated Chassis Management, LLC
- Lynda Parillo, NASCENT Technology, LLC
- Albert Perez, BNSF Railway
- Christopher Plaat, BlackBerry Radar
- Ted Prince, Tiger Cool Express, LLC
- Mark Ratkiewicz, NASCENT Technology, LLC
- Steve Rauch, South Carolina Ports Authority
- Jennifer Reiser, Kansas City Southern
- John Stringer, BNSF Logistics
- Matthew Wafer, Union Pacific Railroad Company
- Jay Windsor, Virginia International Terminals, Inc.
- Matthew Wittemeier, INFORM Software Corporation
API Introduction

• What is an API?
  – The Basics:
    Application Programming Interface – a ‘contract’ that allows two programs to communicate with each other
  – The Sizzle:
    Web APIs – allow connections and data exchange over the public internet
• Information Delivery Channel
  – Complimentary to core technical capability
• How are they beneficial?
  – Technology agnostic
  – Directly connect business partners, automating processes, eliminating manual touches
• Types
  – Public, Partner, Private
So what – we’ve already got EDI…..

• APIs can be either complimentary or duplicative of EDI
  – EDI defines documents to be exchanged – regardless of how they are produced
  – APIs expose core tech capabilities

• Originally requested as a standardization of Railroad APIs
  – Standardization would be a challenge
    • Public Web APIs are relatively young in the market
      – Period of growth and innovation
  • Varying business processes and tech capabilities among Class 1’s
Working Group Scope of Evaluation

• What can we do?
  – Framework for self-evaluation
    • Focused on Public Web APIs in support of the standard Shipment Cycle
    • Can I / Should I even play in the API space?
  – Share Best Practices

• Expanded to All Intermodal Parties
  – Shippers
  – Dray
  – Railroad / Steamship Lines
  – Terminal Operations
Identified Use Cases

• Pre-Gate Validation
  – Rail Billing Received & Valid
  – Reservation / Appointment Confirmed
  – Pickup / Release Number Valid
  – Unit Ready for Pickup
  – Seal Number Verification

• Gate
  – Driver Arrived in Queue
  – Damage Notation
  – DVIR Notation
  – Gate Complete

• Flip
  – Flip Request
  – Flip Completed

• Transit
  – Load Plan, Spot for Load, Loaded
  – Car / Vessel Released
  – Car / Vessel Departed
  – Car / Vessel Arrived
  – Car / Vessel Spotted for Unload
  – Unit Grounded
  – Unit Stacked
  – Storage Approaching Limit

• Exceptions
  – Driver Queued to Roadability
  – Hold Applied / Hold Removed
### Scorecard for Self-Evaluation

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Type</th>
<th>Sender</th>
<th>Receiver</th>
<th>Description</th>
<th>Supported Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-gate (in)</td>
<td>Inquiry</td>
<td>Shipper, Dray</td>
<td>Transit Provider</td>
<td>Railroad confirms valid billing has been received and processed</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Pre-gate (in)</td>
<td>Inquiry</td>
<td>Shipper, Dray</td>
<td>Terminal Operator</td>
<td>Planned in-gate has dedicated reservation</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Pre-gate (in)</td>
<td>Inquiry</td>
<td>Shipper, Dray</td>
<td>Terminal Operator</td>
<td>Planned in-gate has # remaining reservations</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Pre-gate (out)</td>
<td>Inquiry</td>
<td>Shipper, Dray</td>
<td>Terminal Operator</td>
<td>Pickup Number / Release Number Validation</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Pre-gate (out)</td>
<td>Inquiry</td>
<td>Shipper, Dray</td>
<td>Terminal Operator</td>
<td>Unit Mounted on Chassis unable to leave ramp</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Pre-gate (out)</td>
<td>Inquiry</td>
<td>Shipper, Dray</td>
<td>Terminal Operator</td>
<td>Seal Validation</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Gate</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Dray, Asset Owner</td>
<td>Damage Noted at Ingate</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Gate</td>
<td>Event</td>
<td>Dray</td>
<td>Terminal Operator, Asset Owners</td>
<td>Damage Noted at Outgate</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Gate</td>
<td>Event</td>
<td>Dray, Chassis Owner</td>
<td>Terminal Operator</td>
<td>Chassis DVIR</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Gate</td>
<td>Event</td>
<td>Dray</td>
<td>Terminal Operator</td>
<td>Driver Arrived in Terminal Queue</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Gate</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Dray</td>
<td>In Gate Complete</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Gate</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Dray</td>
<td>Out Gate Complete</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Terminal (origin)</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Consignee</td>
<td>Container Planned for outbound loading (Train, Car, Spot, Vessel)</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Terminal (origin)</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Consignee</td>
<td>Container Planned for inbound grounding (Chassis, planned spot)</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Terminal (origin)</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Consignee</td>
<td>Container Spotted for Loading</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Terminal (origin)</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Consignee</td>
<td>Container Loaded to Car</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Transportation</td>
<td>Event</td>
<td>Transit Provider</td>
<td>Shipper, Consignee</td>
<td>Car pulled from ramp</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Transportation</td>
<td>Event</td>
<td>Transit Provider</td>
<td>Shipper, Consignee</td>
<td>Container departed on train / vessel</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Transportation</td>
<td>Event</td>
<td>Transit Provider</td>
<td>Shipper, Consignee</td>
<td>Train / Vessel arrival at Destination</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Transportation</td>
<td>Event</td>
<td>Transit Provider</td>
<td>Shipper, Consignee</td>
<td>Car spotted to ramp</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Terminal (dest)</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Consignee</td>
<td>Unit Grounded to chassis (with ID and parking spot)</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Terminal (dest)</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Consignee</td>
<td>Unit Grounded without chassis</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Terminal (dest)</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Consignee</td>
<td>Unit Stacked</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Terminal (dest)</td>
<td>Event</td>
<td>Dray</td>
<td>Terminal Operator, Chassis Owner</td>
<td>Driver Queued for Roadability</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Terminal (dest)</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Consignee</td>
<td>Hold Applied to Container (e.g. Customs Hold)</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Terminal (dest)</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Consignee</td>
<td>Hold Released from Container (e.g. Customs Hold)</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Terminal (dest)</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Consignee, Dray</td>
<td>Container approaching Storage Limit - Storage Begins XX</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Flip</td>
<td>Request</td>
<td>Shipper, Dray</td>
<td>Terminal Operator</td>
<td>Request Flip</td>
<td>Website, Mobile, API</td>
</tr>
<tr>
<td>Flip</td>
<td>Event</td>
<td>Terminal Operator</td>
<td>Shipper, Asset Owners</td>
<td>Flip Performed</td>
<td>Website, Mobile, API</td>
</tr>
</tbody>
</table>
Recommended Practices – API Formatting

• Data Format

XML

```
<Container>
  <ISOID>UMXU100100</ISOID>
  <length>53</length>
  <length-uom>ft</length-uom>
  <reefer>N</reefer>
</Container>
```

JSON

```
"Container": {
  "ISOID" : 'UMXU100100',
  "length" : 53,
  "length-uom" : 'ft',
  "reefer" : 'n'
}
```

• Developer Center / Documentation

  - UPRR - [https://www.up.com/customers/all/api-developer/index.htm](https://www.up.com/customers/all/api-developer/index.htm)
  - Railinc - [https://public.railinc.com/developers](https://public.railinc.com/developers)

• Sandbox / Test scenarios

  - Allows client developers to test API functionality
  - Known, Repeatable Scenarios
Recommended Practices - Security

- Security Levels
  - Level 1 - Authentication
  - Level 2 - Authorization
  - Level 3 – Fine-grained Authorization

- Security Approaches
  1. API Tokens
  2. Oauth & Open ID
  3. SAML (Security Assertion Markup Language)
     - Most Commonly used for SSO (Single Sign On)
Questions & Discussion
Old Business
Old Business

• Carbon Credits Program

• Toll Violations Attribution in New Jersey

• Operations Committee Roadmap
New Business
New Business

• Operational Impact of Side Underride Guards
  • Federal Register :: Side Underride Guards
  • NHTSA Advance Notice of Proposed Rulemaking Seeks Comments on
    • Other benefits NHTSA failed to consider that could justify a mandate for side underride guards
    • The effects of side underride guards on trailer and semitrailer operations
    • Information on the effects of side underride guards on intermodal equipment, freight mobility, freight capacity, and port operations
Housekeeping
IANA Info

• Intermodal Recommended Practices page
  • [https://www.intermodal.org/resource-center/committee-recommended-practices](https://www.intermodal.org/resource-center/committee-recommended-practices)

• Industry Tools & Resources
  • [https://www.intermodal.org/resource-center/industry-tools-resources](https://www.intermodal.org/resource-center/industry-tools-resources)

• IANA Education Program *Advancing Intermodal*
  • [https://www.intermodal.org/upcoming-education](https://www.intermodal.org/upcoming-education)

• Next Committee Meeting
  • In person – September 11, 2023 at EXPO in Long Beach
Adjournment